RAW SEQUENCE LISTING

The Biotechnology Systems Branch of the Scientific and Technical Information Center (STIC) no errors detected.

Application Serial Number: 10/518,884
Source: PCT
Date Processed by STIC: 3/3/06

ENTERED

PCT

RAW SEQUENCE LISTING DATE: 03/03/2006
PATENT APPLICATION: **US/10/518,884** TIME: 12:57:49

Input Set : **A:\Martin.app**
Output Set: **N:\CRF4\03032006\J518884.raw**

```
 3 <110> APPLICANT: Martin, Catherine R
 4       Michael, Anthony
 5       Niggeweg, Ricarda
 7 <120> TITLE OF INVENTION: Plant-Derived Transferase Genes
 9 <130> FILE REFERENCE: 0380-P03542US0
11 <140> CURRENT APPLICATION NUMBER: US 10/518,884
12 <141> CURRENT FILING DATE: 2004-12-20
14 <150> PRIOR APPLICATION NUMBER: PCT/GB2003/002645
15 <151> PRIOR FILING DATE: 2003-06-17
17 <150> PRIOR APPLICATION NUMBER: GB 0214406.1
18 <151> PRIOR FILING DATE: 2002-06-21
20 <160> NUMBER OF SEQ ID NOS: 23
22 <170> SOFTWARE: PatentIn version 3.1
24 <210> SEQ ID NO: 1
25 <211> LENGTH: 430
26 <212> TYPE: PRT
27 <213> ORGANISM: Lycopersicon esculentum
29 <400> SEQUENCE: 1
31 Met Gly Ser Glu Lys Met Met Lys Ile Asn Ile Lys Glu Ser Thr Leu
32 1               5                  10                  15
35 Val Lys Pro Ser Lys Pro Thr Pro Thr Lys Arg Ile Trp Ser Ser Asn
36             20                  25                  30
39 Leu Asp Leu Ile Val Gly Arg Ile His Leu Leu Thr Val Tyr Phe Tyr
40         35                  40                  45
43 Lys Pro Asn Gly Ser Ser Asn Phe Phe Asp Asn Lys Val Ile Lys Glu
44     50                  55                  60
47 Ala Leu Ser Asn Val Leu Val Ser Phe Tyr Pro Met Ala Gly Arg Leu
48 65                  70                  75                  80
51 Gly Arg Asp Glu Gln Gly Arg Ile Glu Val Asn Cys Asn Gly Glu Gly
52                 85                  90                  95
55 Val Leu Phe Val Glu Ala Glu Ser Asp Ser Cys Val Asp Asp Phe Gly
56             100                 105                 110
59 Asp Phe Thr Pro Ser Leu Glu Leu Arg Lys Leu Ile Pro Ser Val Glu
60         115                 120                 125
63 Thr Ser Gly Asp Ile Ser Thr Phe Pro Leu Val Ile Phe Gln Ile Thr
64     130                 135                 140
67 Arg Phe Lys Cys Gly Gly Val Ala Leu Gly Gly Gly Val Phe His Thr
68 145                 150                 155                 160
71 Leu Ser Asp Gly Leu Ser Ser Ile His Phe Ile Asn Thr Trp Ser Asp
72                 165                 170                 175
75 Ile Ala Arg Gly Leu Ser Val Ala Val Pro Pro Phe Ile Asp Arg Thr
76             180                 185                 190
79 Leu Leu Arg Ala Arg Asp Pro Pro Thr Tyr Ser Phe Glu His Val Glu
```

RAW SEQUENCE LISTING DATE: 03/03/2006
PATENT APPLICATION: US/10/518,884 TIME: 12:57:49

Input Set : A:\Martin.app
Output Set: N:\CRF4\03032006\J518884.raw

```
80          195                 200                 205
83 Tyr His Pro Pro Pro Thr Leu Asn Ser Ser Lys Asn Arg Glu Ser Ser
84      210                 215                 220
87 Thr Thr Thr Met Leu Lys Phe Ser Ser Glu Gln Leu Gly Leu Leu Lys
88 225                 230                 235                 240
91 Ser Lys Ser Lys Asn Glu Gly Ser Thr Tyr Glu Ile Leu Ala Ala His
92                  245                 250                 255
95 Ile Trp Arg Cys Thr Cys Lys Ala Arg Gly Leu Pro Glu Asp Gln Leu
96              260                 265                 270
99 Thr Lys Leu His Val Ala Thr Asp Gly Arg Ser Arg Leu Cys Pro Pro
100         275                 280                 285
103 Leu Pro Pro Gly Tyr Leu Gly Asn Val Val Phe Thr Ala Thr Pro Ile
104     290                 295                 300
107 Ala Lys Ser Cys Glu Leu Gln Ser Glu Pro Leu Thr Asn Ser Val Lys
108 305                 310                 315                 320
111 Arg Ile His Asn Glu Leu Ile Lys Met Asp Asp Asn Tyr Leu Arg Ser
112                 325                 330                 335
115 Ala Leu Asp Tyr Leu Glu Leu Gln Pro Asp Leu Ser Thr Leu Ile Arg
116             340                 345                 350
119 Gly Pro Ala Tyr Phe Ala Ser Pro Asn Leu Asn Ile Asn Ser Trp Thr
120         355                 360                 365
123 Arg Leu Pro Val His Glu Cys Asp Phe Gly Trp Gly Arg Pro Ile His
124     370                 375                 380
127 Met Gly Pro Ala Cys Ile Leu Tyr Glu Gly Thr Ile Tyr Ile Ile Pro
128 385                 390                 395                 400
131 Ser Pro Asn Ser Lys Asp Arg Asn Leu Arg Leu Ala Val Cys Leu Asp
132                 405                 410                 415
135 Ala Gly His Met Ser Leu Phe Glu Lys Tyr Leu Tyr Glu Leu
136             420                 425                 430
139 <210> SEQ ID NO: 2
140 <211> LENGTH: 436
141 <212> TYPE: PRT
142 <213> ORGANISM: Nicotiana tabacum
144 <400> SEQUENCE: 2
146 Met Gly Ser Glu Lys Met Met Lys Ile Asn Ile Lys Glu Ser Thr Leu
147 1               5                   10                  15
150 Val Lys Pro Ser Lys Pro Thr Pro Thr Lys Arg Leu Trp Ser Ser Asn
151             20                  25                  30
154 Leu Asp Leu Ile Val Gly Arg Ile His Leu Leu Thr Val Tyr Phe Tyr
155         35                  40                  45
158 Lys Pro Asn Gly Ser Ser Asn Phe Phe Asp Ser Lys Ile Met Lys Glu
159     50                  55                  60
162 Ala Leu Ser Asn Val Leu Val Ser Phe Tyr Pro Met Ala Gly Arg Leu
163 65                  70                  75                  80
166 Ala Arg Asp Glu Gln Gly Arg Ile Glu Ile Asn Cys Asn Gly Glu Gly
167                 85                  90                  95
170 Val Leu Phe Val Glu Ala Glu Ser Asp Ala Phe Val Asp Asp Phe Gly
171             100                 105                 110
174 Asp Phe Thr Pro Ser Leu Glu Leu Arg Lys Leu Ile Pro Thr Val Asp
```

RAW SEQUENCE LISTING DATE: 03/03/2006
PATENT APPLICATION: US/10/518,884 TIME: 12:57:49

Input Set : A:\Martin.app
Output Set: N:\CRF4\03032006\J518884.raw

```
175         115                 120                 125
178 Thr Ser Gly Asp Ile Ser Thr Phe Pro Leu Ile Ile Phe Gln Val Thr
179     130                 135                 140
182 Arg Phe Lys Cys Gly Gly Val Ser Leu Gly Gly Gly Val Phe His Thr
183 145                 150                 155                 160
186 Leu Ser Asp Gly Leu Ser Ser Ile His Phe Ile Asn Thr Trp Ser Asp
187                 165                 170                 175
190 Ile Ala Arg Gly Leu Ser Val Ala Ile Pro Pro Phe Ile Asp Arg Thr
191             180                 185                 190
194 Leu Leu Arg Ala Arg Asp Pro Pro Thr Ser Ser Phe Glu His Val Glu
195         195                 200                 205
198 Tyr His Pro Pro Pro Ser Leu Ile Ser Ser Ser Lys Ser Leu Glu Ser
199     210                 215                 220
202 Thr Ser Pro Lys Pro Ser Thr Thr Thr Met Leu Lys Phe Ser Ser Asp
203 225                 230                 235                 240
206 Gln Leu Gly Leu Leu Lys Ser Lys Ser Lys His Asp Gly Ser Thr Tyr
207                 245                 250                 255
210 Glu Ile Leu Ala Ala His Ile Trp Arg Cys Thr Cys Lys Ala Arg Ala
211             260                 265                 270
214 Leu Ser Asp Asp Gln Leu Thr Lys Leu His Val Ala Thr Asp Gly Arg
215         275                 280                 285
218 Ser Arg Leu Cys Pro Pro Leu Pro Pro Gly Tyr Leu Gly Asn Val Val
219     290                 295                 300
222 Phe Thr Gly Thr Pro Met Ala Lys Ser Ser Glu Leu Leu Gln Glu Pro
223 305                 310                 315                 320
226 Leu Thr Asn Ser Ala Lys Arg Ile His Ser Ala Leu Ser Lys Met Asp
227                 325                 330                 335
230 Asp Asn Tyr Leu Arg Ser Ala Leu Asp Tyr Leu Glu Leu Leu Pro Asp
231             340                 345                 350
234 Leu Ser Ala Leu Ile Arg Gly Pro Thr Tyr Phe Ala Ser Pro Asn Leu
235         355                 360                 365
238 Asn Ile Asn Ser Trp Thr Arg Leu Pro Val His Asp Ser Asp Phe Gly
239     370                 375                 380
242 Trp Gly Arg Pro Ile His Met Gly Pro Ala Cys Ile Leu Tyr Glu Gly
243 385                 390                 395                 400
246 Thr Val Tyr Ile Leu Pro Ser Pro Asn Ser Lys Asp Arg Asn Leu Arg
247                 405                 410                 415
250 Leu Ala Val Cys Leu Asp Ala Asp His Met Pro Leu Phe Glu Lys Tyr
251             420                 425                 430
254 Leu Tyr Glu Phe
255         435
258 <210> SEQ ID NO: 3
259 <211> LENGTH: 1456
260 <212> TYPE: DNA
261 <213> ORGANISM: Nicotiana tabacum
263 <400> SEQUENCE: 3
264 atgggaagtg aaaaaatgat gaaaattaat atcaaggaat caacattagt aaaaccatca     60
266 aaaccaacac caacaaaaag actttggagt tctaacttag atttaatagt gggaagaatt    120
268 catcttttaa cagtatattt ctataaacca aatggatctt caaatttctt tgattcaaaa    180
```

RAW SEQUENCE LISTING DATE: 03/03/2006
PATENT APPLICATION: US/10/518,884 TIME: 12:57:49

Input Set : A:\Martin.app
Output Set: N:\CRF4\03032006\J518884.raw

270 ataatgaaag aagcattaag taatgttctt gtttcatttt acccaatggc tggaagatta 240
272 gctagagatg aacaaggaag aattgagata aattgtaatg gagaaggagt tttatttgtt 300
274 gaagctgaaa gtgatgcttt tgttgatgat tttggtgatt ttactccaag tttggaactt 360
276 aggaaactta ttcctactgt tgacacttct ggtgatattt ctactttccc cctcatcatc 420
278 tttcaggtta ctcgtttcaa atgtggtgga gtttcacttg gtggaggagt attccacact 480
280 ttatcagatg gtctctcatc aattcacttc atcaacacat ggtccgatat agcccgaggc 540
282 ctctccgtcg ccatcccgcc gttcatcgac cggaccctcc tccgtgcacg ggacccacca 600
284 acatcgtctt tcgagcacgt cgagtatcat cctcctccat ctctaatttc atcatcaaaa 660
286 agcttagaat ccactagccc aaagcctagt accacaacca tgttaaaatt ctctagtgac 720
288 caacttgggc ttctaaagtc caagtccaaa catgatggta gcacttacga aatcctcgcg 780
290 gcccatattt ggcgttgcac gtgcaaggca cgtgcactgt ccgacgatca attgaccaaa 840
292 ttacatgtgg ccactgatgg taggtctagg ctttgccctc ctttgccacc aggttactta 900
294 ggaaatgttg tgttcacagg cacacctatg gcaaaatcaa gtgaactttt acaagaacca 960
296 ttgacaaatt cagccaagag aattcatagt gcattatcaa aaatggatga caattaccta 1020
298 agatcagctc tcgattacct cgaattactg cccgatttat cggctttaat ccgtggaccg 1080
300 acgtactttg ctagccctaa tcttaatatt aatagttgga ctagattgcc tgttcatgat 1140
302 tcagattttg gatggggaag gccaattcat atgggaccag cttgcatttt atatgaaggg 1200
304 acagtttata tattgccaag tccaaatagt aaagatagga acttgcgttt ggctgtttgt 1260
306 ttagatgctg atcacatgcc actatttgag aagtatttgt atgaattttg agaggttgaa 1320
308 aaaaaaatca agaatgttcc aacacttgag aattatctta ggtgtgggtg gttttggatt 1380
310 aaggcatttt gtaacttgtt ttctattgtt tttttggggg gtcagtttgt tttcaaaaaa 1440
312 aaaaaaaaaa aaaaaa 1456
315 <210> SEQ ID NO: 4
316 <211> LENGTH: 1293
317 <212> TYPE: DNA
318 <213> ORGANISM: Lycopersicon esculentum
320 <400> SEQUENCE: 4
321 atgggaagtg aaaaaatgat gaaaattaat atcaaagaat caacactagt gaaaccatca 60
323 aaaccaacac caacaaagag aatttggagt tctaatttgg atttaattgt tggaagaatt 120
325 catcttttga ctgtttattt ttataaacca aatggatctt caaatttttt tgataataaa 180
327 gttattaaag aagcattaag taatgtttta gtttcatttt atccaatggc tggaagatta 240
329 ggtagggatg aacaaggtag aattgaagtt aattgtaatg gtgaaggtgt tttgtttgtt 300
331 gaggctgaaa gtgattcatg tgttgatgat tttggtgatt ttacaccatc tttggaactt 360
333 agaaaactca ttccaagtgt tgaaacctct ggagatatct caactttccc actagttata 420
335 tttcagatta ctcgtttcaa gtgtggcgga gtcgctcttg gtggtggagt attccacacg 480
337 ttatccgatg gtctctcatc catccacttc atcaacacgt ggtcggacat cgcccgtggc 540
339 ctctccgtcg cagtcccgcc gttcatcgat cggacgctcc tccgtgcaag ggacccaccg 600
341 acatattctt tcgagcacgt tgagtaccat cctccaccta ccctaaactc atcgaaaaat 660
343 cgcgagtcca gtaccacgac catgttgaaa ttctcgagtg aacaactcgg gcttcttaag 720
345 tccaagtcca aaaatgaggg tagcacctat gaaatcctcg cagcccatat ttggcgatgc 780
347 acgtgcaagg cacgtggatt gccagaggat caattgacca aattacacgt ggccaccgac 840
349 ggaaggtcaa ggctttgccc tcccttgcca ccgggttacc taggaaacgt cgtgttcacg 900
351 gcaaccccaa tagctaaatc atgcgaactt caatcagagc cgttgacaaa ttccgtcaag 960
353 agaattcaca acgagttgat caaaatggac gacaattacc taagatcagc actggattac 1020
355 ctcgaattac aacctgattt atcaacccta attcggggcc cggcttactt tgctagccct 1080
357 aacctcaata ttaatagttg gactaggttg cctgtccatg agtgtgattt tggatggggt 1140
359 aggccaattc atatgggacc agcttgcatt ttatatgaag ggacaattta tattatacca 1200
361 agtccaaatt ctaaagatag gaacttgcgt ttggctgttt gtctagatgc tggtcacatg 1260
363 tcactatttg aaaaatattt atatgaatta tga 1293

RAW SEQUENCE LISTING DATE: 03/03/2006
PATENT APPLICATION: US/10/518,884 TIME: 12:57:49

Input Set : A:\Martin.app
Output Set: N:\CRF4\03032006\J518884.raw

366 <210> SEQ ID NO: 5
367 <211> LENGTH: 35
368 <212> TYPE: DNA
369 <213> ORGANISM: Artificial sequence
371 <220> FEATURE:
372 <223> OTHER INFORMATION: Oligonucleotide
374 <400> SEQUENCE: 5
375 gactcgagtc gacatcgatt ttttttttt ttttt 35
378 <210> SEQ ID NO: 6
379 <211> LENGTH: 35
380 <212> TYPE: DNA
381 <213> ORGANISM: Artificial sequence
383 <220> FEATURE:
384 <223> OTHER INFORMATION: Oligonucleotide
386 <400> SEQUENCE: 6
387 ccatgggaag tgaaaaaatg atgaaaatta atatc 35
390 <210> SEQ ID NO: 7
391 <211> LENGTH: 35
392 <212> TYPE: DNA
393 <213> ORGANISM: Artificial sequence
395 <220> FEATURE:
396 <223> OTHER INFORMATION: Oligonucleotide
398 <400> SEQUENCE: 7
399 ggatcctcat aattcatata aatatttttc aaata 35
402 <210> SEQ ID NO: 8
403 <211> LENGTH: 29
404 <212> TYPE: DNA
405 <213> ORGANISM: Artificial sequence
407 <220> FEATURE:
408 <223> OTHER INFORMATION: Oligonucleotide
410 <400> SEQUENCE: 8
411 gagcacgtcg agtatcatcc tcctccatc 29
414 <210> SEQ ID NO: 9
415 <211> LENGTH: 32
416 <212> TYPE: DNA
417 <213> ORGANISM: Artificial sequence
419 <220> FEATURE:
420 <223> OTHER INFORMATION: Oligonucleotide
422 <400> SEQUENCE: 9
423 ctaatttcat catcaaaaag cttagaatcc ac 32
426 <210> SEQ ID NO: 10
427 <211> LENGTH: 17
428 <212> TYPE: DNA
429 <213> ORGANISM: Artificial sequence
431 <220> FEATURE:
432 <223> OTHER INFORMATION: Oligonucleotide
434 <400> SEQUENCE: 10
435 gactcgagtc gacatcg 17
438 <210> SEQ ID NO: 11

VERIFICATION SUMMARY DATE: 03/03/2006
PATENT APPLICATION: **US/10/518,884** TIME: 12:57:50

Input Set : **A:\Martin.app**
Output Set: **N:\CRF4\03032006\J518884.raw**